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EXAMINER	
STONE, JENNIFER A	

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/086,573	Applicant(s) LANGNER ET AL.	
	Examiner Jennifer A Stone	Art Unit 2636	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-32* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-22 and 24-32* is/are rejected.

7)☒ Claim(s) *23* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *28 February 2002* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1, 2, 4, 5, and 18 are rejected under 35 U.S.C. 102(e) as being anticipated by Barber et al. (U.S. 6,690,298).

For claim 1, Barber discloses a multifunctional display (MFD) comprising a bezel having controls located thereon which are adapted for controlling display formats (col 2, lns 66 and 67; col 3, lns 1-6 and 39-44; Fig. 2, item 200), communication devices, navigational devices, and equipment sensors (col 3, lns 12-22; Fig. 2, item 115). The display is adjacent to the bezel (Fig. 2, item 200), wherein the display is adapted to include at least one display region having navigational related data (col 3, lns 25, 26, and 34-38), and wherein at least one of the controls is operable to variably select a display format for the display region (col 2, lns 66 and 67; col 3, lns 1-11; Fig. 1, items 105 and 110).

For claim 2, Barber discloses the display to include a first and second display region adapted to provide navigation related data in different display formats (col 3, lns

45-47, 56-63; col 4, lns 1-5; Fig. 2, items 212 and 220; col 4, lns 21-27). The terrain profile (Fig. 2, item 212) can be located either on the upper or lower view of the display.

For claim 4, the MFD display format includes a display format selected from the group consisting of a perspective view (Fig. 2 and 3, item 210), a top down view (Fig. 2 and 3, item 222), and a birds-eye view (Fig. 3, item 212 and 222)

For claim 5, the MFD displays one region that includes navigation related data in a cockpit perspective view (Fig. 3, item 210), wherein the data include an aircraft nose marker (Fig. 3, item 211), a set of aircraft wingtip markers (Fig. 3, item 211), a horizon line (Figs. 3, item 216), and a number of geographic features (col 3, lns 63-67; col 4, lns 1and 2; col 5, lns.5-20).

For claim 18, Barber discloses the first and second bezel to include at least one of transponder controls, GPS controls, autopilot controls, and messaging controls affixed thereon (col 3, lns 18-22; Fig. 1, item 119).

3. Claims 25, 27, 29, and 30-32 are rejected under 35 U.S.C. 102(e) as being anticipated by Barber et al.

For claim 25, the claim is interpreted and rejected for the same reasons as stated in the rejection of claim 1 as stated above. In addition, Barber discloses individually controlling a display format for each of the number of display regions using a number of input controls proximately located to the MFD (col 4, lns 48-60; Figs. 2 and 3, items 210).

For claim 27, the claim is interpreted and rejected for the same reasons as stated in the rejection of claim 5 as stated above.

For claim 29, the claim is interpreted and rejected for the same reasons as stated in the rejection of claim 25 as stated above.

For claim 30, the claim is interpreted and rejected for the same reasons as stated in the rejection of claim 4 as stated above. Furthermore, Barber discloses an instrument view (Figs. 2 and 3, item 205; col 3, lns 39-44).

For claim 31, Barber discloses dynamically swapping a display format provided in one of the number of display regions with a display format provided in another one of the number of display regions (col 4, lns 48-60; Figs. 2 and 3, item 210).

For claim 32, the display dynamically provides a number of display regions, adapted to present navigation related data, on a MFD including one display region having a dynamic image associated with one of a weather condition, a terrain condition, and a traffic condition (col 3, lns 45-55).

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Barber as applied to claim 2 above, and further in view of Feyerseisen et al. (U.S. 2003/0132860).

Barber discloses a primary display region (Fig. 2, item 210) and the second display region (Fig. 2, item 205); however, the inset is not overlaid on the primary display region. Feyerseisen discloses many insets (Fig. 3, items 120 and 128) overlaid on a primary display region. It would have been obvious to one of ordinary skill in the art, at the time the invention was made to provide insets overlaid on a primary display region to ensure that the pilot can view all primary display data (background data) in order to ensure a safe flight.

6. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Barber as applied to claim 5 above, and further in view of Feyerseisen et al.

Barber shows a display region that is dynamically configurable to provide a display showing the aircraft wingtip markers and nose marker maintained in a fixed parallel orientation with the top of the display which shows a horizon line and geographical data. However, Barber shows neither a top bezel nor dynamic motion. Oder does show a top bezel (Fig. 2.) and Feyerseisen does show dynamic motion with a representation of the aircraft (parag 19, lns 10-19; parag 21, lns 1-7). It would have been obvious to one of ordinary skill in the art, at the time the invention was made to display aircraft characteristics that move dynamically on the screen, and parallel to the top portion of the bezel so that a pilot views real-life concrete information in their flight path to enhance the safety of air travel.

7. Claim 28 is rejected under 35 U.S.C. 103(a) as being unpatentable over Barber as applied to claim 27 above, and further in view of Feyerseisen et al.

Barber shows a display region that is dynamically configurable to provide a display showing the aircraft wingtip markers and nose marker maintained in a fixed parallel orientation with the top of the MDF which shows a horizon line and geographical data. However, Barber does not show dynamic motion. Feyerseisen does show dynamic motion with a representation of the aircraft (parag 19, lns 10-19; parag 21, lns 1-7). It would have been obvious to one of ordinary skill in the art, at the time the invention was made to display aircraft characteristics that move dynamically on the screen so that a pilot views real-life concrete information in their flight path to enhance the safety of air travel.

8. Claim 26 is rejected under 35 U.S.C. 103(a) as being unpatentable over Barber as applied to claim 25 above, and further in view of Feyerseisen et al.

The claim is interpreted and rejected for the same reasons as stated in the rejection of claim 25 as stated above. In addition, Feyerseisen discloses geographical data filling the entire first display region (Fig. 3, item 100) and a heading indicator (parag 41, lns 1-6) directly thereon, and providing a second display region which includes a number of insets overlaid on the primary display region (Fig. 3, items 120 and 128). It would have been obvious to provide insets overlaid on a primary display region to ensure that the pilot can view all primary display data in order to ensure a safe flight.

9. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Barber, and further in view of Feyerseisen et al.

Barber discloses a cockpit instrument panel, including a first display enclosed within a bezel and having controls located thereon which are adapted for controlling

display formats (col 2, lns 66 and 67; col 3, lns 1-6 and 39-44; Fig. 2, item 200), communication devices, navigational devices, and equipment sensors (col 3, lns 12-22; Fig. 2, item 115). The display is adapted to include a number of display regions having navigational related data (col 3, lns 25, 26, and 34-38), and wherein at least one of the controls is operable to variably select a display format for the display regions (col 2, lns 66 and 67; col 3, lns 1-11; Fig. 1, items 105 and 110).

Barber also discloses a second cockpit instrument panel located adjacent to the first cockpit instrument panel where the second panel includes (Fig. 1, items 105 and 110): a second display enclosed within a bezel a having controls located thereon which are adapted for controlling display formats (col 2, lns 66 and 67; col 3, lns 1-6 and 39-44; Fig. 2, item 200), communication devices, navigational devices, and equipment sensors (col 3, lns 12-22; Fig. 2, item 115). The display is adapted to include a number of display regions having navigational related data (col 3, lns 25, 26, and 34-38), and wherein at least one of the controls is operable to variably select a display format for the display regions (col 2, lns 66 and 67; col 3, lns 1-11; Fig. 1, items 105 and 110).

Even though Barber discloses geographic data (col 5, lns 5-15) and a compass display (col 5, lns 15-20; Fig. 3), the compass is not overlaid on the geographic data display, however, Feyerseisen discloses geographical data filling the entire first display region (Fig. 3, item 100) and a compass rose (parag 0054, lns 1-13) directly overlaid on the geographical data presentation (Fig. 3). It would have been obvious to provide a compose rose overlaid on the geographic data display so that space in the cockpit is used efficiently by providing two types of information on one display.

For claim 8, the claim is interpreted and rejected for the same reasons as stated in the rejection of claim 5 as stated above.

For claim 10, the claim is interpreted and rejected for the same reasons as stated in the rejection of claim 2 as stated above.

For claim 11, the claim is interpreted and rejected for the same reasons as stated in the rejection of claim 4 as stated above. In addition, an instrument view is included on the display (Fig. 3, item 205).

For claim 12, the claim is interpreted and rejected for the same reasons as stated in the rejection of claim 3 as stated above.

For claim 13, Barber discloses controls on the second bezel (CCP – Fig. 1) adapted to switch a display format (col 2, lns 66 and 67; col 3, lns 1-10) provided on the primary display region to display any one of a number of displays (col 5, lns 21-26). The controls are adapted to switch a display format provided on any of the number of displays to a display format provided on the primary display region (col 3, lns 56-60; Fig. 2, item 210; col 4, lns 1-5). Barber does not show insets. However Feyerseisen shows insets. It would have been obvious to not only switch the display screen, but also switch the insets on the display screens so that a pilot and co-pilot can share the responsibility to manage a series of inset data.

For claim 15, the claim is interpreted and rejected for the same reasons as stated in the rejection of claim 32 as stated above.

For claim 16, Barber discloses a first cockpit instrumental panel that is a PFD (col 2, lns 66 and 67; col 3, lns 1-6) and a second panel that is a navigation display (col 3, lns 45-47). Both panels can be interchangeable (col 5, lns 21-26).

10. Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Barber as applied to claim 7 above, and further in view of Feyerseisen et al.

Barber does not include a 3-D display format. Feyerseisen does include a 3-D display format (parag 73, lns 5-8; Fig. 3, item 200). It would have been obvious to include a 3-D representation display so that a pilot views real-life concrete information in their flight path to enhance the safety of air travel.

11. Claims 19-22, and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Barber, and further in view of Feyerseisen et al.

For claim 19, Barber discloses a PFD adapted to simultaneously provide a number of navigation related views in a set of variable display formats, including geographical data and a full horizontal situational indicator (col 3, lns 45-53; Fig. 3, items 222 and 223). A second flight display is adapted to simultaneously provide a number of navigation related views in a set of variable display formats, wherein the PFD and the MFD are adjacent to one another and wherein the number of navigation related views in both the PFD and the MFD are dynamically interchangeable (col 5, lns 21-26).

For claim 20, the claim is interpreted and rejected for the same reasons as stated in the rejection of claims 4 and 11 as stated above.

For claim 21, the claim is interpreted and rejected for the same reasons as stated in the rejection of claims 32 as stated above. Furthermore, the PFD and MFD are interchangeable; therefore, the images appear on both the MFD and PFD.

For claim 24, the PFD and MFD are adapted to display the number of navigation related views in the set of variable display formats, as previously displayed on either the PFD or MFD, on a remaining one of the PFD and the MFD in the event of a failure of a display screen on either the PFD or MFD (col 3, lns 4-6).

For claim 22, the set of variable display formats for both the PFD and the MFD are dependent upon an aircraft type (col 2, lns 59-63).

12. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Barber and Feyerseisen as applied to claim 8 above, and further in view of Oder et al. (U.S. 5,475,594).

Barber shows a PFD region that is operated to provide a display showing the aircraft wingtip markers and nose marker maintained in a fixed parallel orientation with the top of the display which shows a horizon line and geographical data. However, Barber shows neither a top bezel nor dynamic motion. Oder does show a top bezel (Fig. 2.) and Feyerseisen does show dynamic motion with a representation of the aircraft (parag 19, lns 10-19; parag 21, lns 1-7). It would have been obvious to one of ordinary skill in the art, at the time the invention was made to display aircraft characteristics that move dynamically on the screen, and parallel to the top portion of the bezel so that a pilot views real-life concrete information in their flight path to enhance the safety of air travel.

13. Claim 17 is rejected under 35 U.S.C. 103(a) as being unpatentable over Barber and Feyerseisen as applied to claim 7 above, and further in view of Tran et al. (U.S. 5,883,586).

Barber discloses two instrument panel displays positioned side by side (Fig. 1, items 105 and 110); however Barber does not disclose an audio panel. Tran, on the other hand, does disclose an audio panel between two display panels (col 3, lns 35-41; Fig. 1, items 328 and 139). It would have been obvious to include an audio panel between two displays so that a pilot and a co-pilot can be alerted audibly. In the event that both operators are inundated with visual cues from the display, they will each be aware of an audible cue or warning coming from the audio panel.

Allowable Subject Matter

14. Claim 23 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

15. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jennifer A. Stone whose telephone number is (703) 305.2267. The examiner can normally be reached 8:00-4:30, M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mr. Jeffery Hofsass can be reached at (703) 305.4717. The fax phone

numbers for the organization where this application or proceeding is assigned are (703) 308.6743 for regular communications and (703) 308.6743 for after final communications.

Any inquiry of a general nature of relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305.3900.

Jennifer Stone
March 16, 2004

JEFFERY HOFSASS
SUPERVISORY PATENT EXAMINER
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